Robert C. Colwell, Reg. No. 27,431.   (650) 326-2400
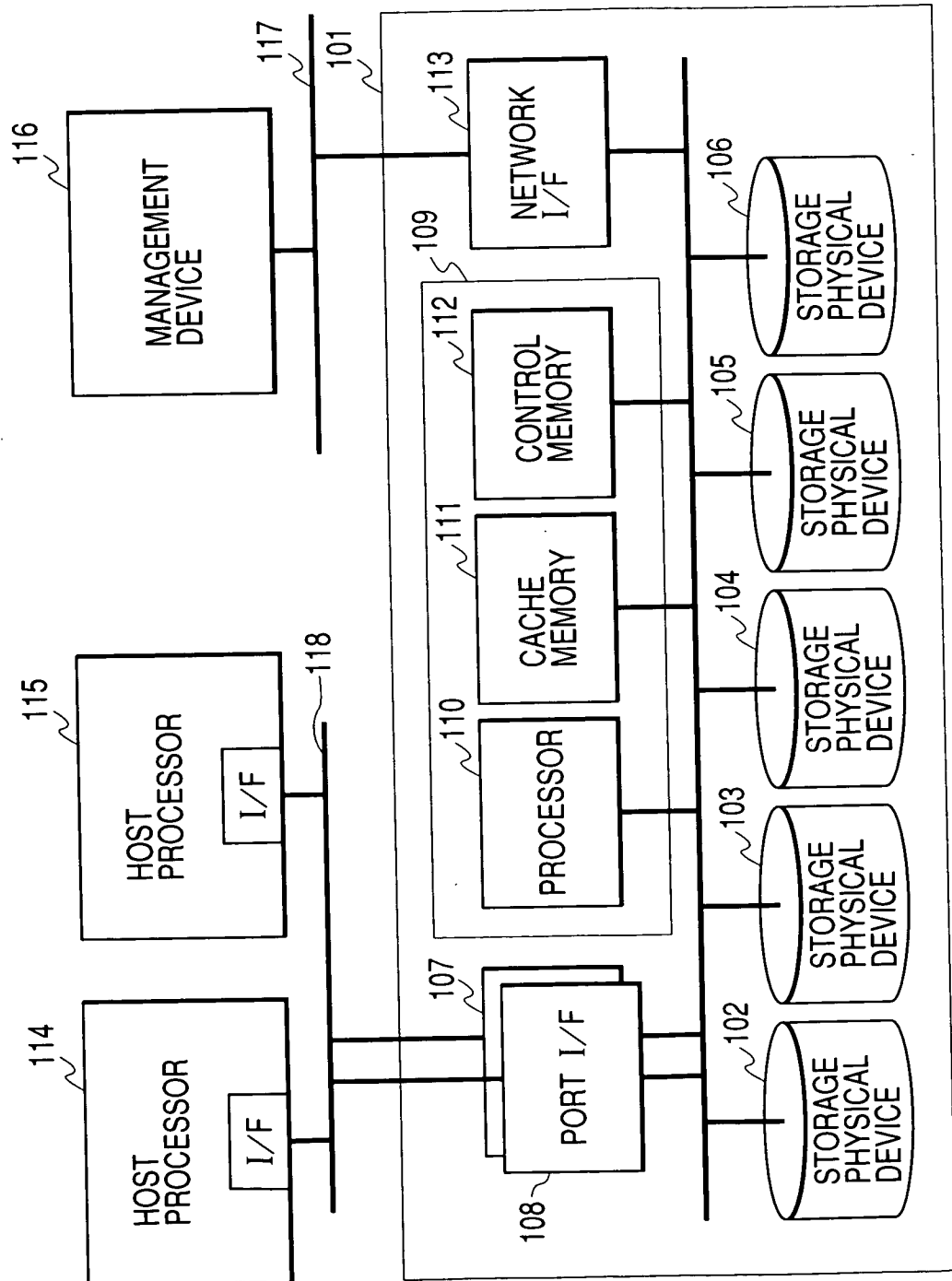
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FIG. 1

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FIG. 2

FILE ATTRIBUTE 201	CONTENTS 202	CONDITIONS 203
NAME OF EXECUTER 204	NAME OF EXECUTER ID OF ACCESS TO FILE	DESIGNATION, ID, AND ATTACHED GROUP NAME ID COINCIDE ?
HOLDER 205	FILE'S HOLDER NAME ID	DESIGNATION, ID, ATTACHED GROUP NAME ID COINCIDE ?
SIZE 206	SIZE OF FILE	SMALLER THAN, SMALLER THAN OR EQUAL TO, LARGER THAN OR EQUAL TO, OR EQUAL TO GIVEN VALUE
CREATION DATE 207	CREATION DATE OF FILE	NEWER THAN, NEWER THAN OR IDENTICAL TO, OLDER THAN, OLDER THAN OR IDENTICAL TO, OR IDENTICAL TO GIVEN TIME
RENEWAL DATE 208	FINAL RENEWAL DATE OF FILE	NEWER THAN, NEWER THAN OR IDENTICAL TO, OLDER THAN, OLDER THAN OR IDENTICAL TO, OR IDENTICAL TO GIVEN TIME
FINAL ACCESS DATE 209	DATE OF FINAL ACCESS TO FILE	NEWER THAN, NEWER THAN OR IDENTICAL TO, OLDER THAN, OLDER THAN OR IDENTICAL TO, OR IDENTICAL TO GIVEN TIME
NAME OF FILE EXTENSION / CREATED AP NAME 210	TYPE AND CREATION OF FILE / NAME OF USE APPLICATION	EXTENSIONS COINCIDE (WILD CARD DESIGNATABLE)
FREQUENCY OF ACCESS 211	NUMBER OF ACCESSES TO FILE WITHIN PREDETERMINED PERIOD	SMALLER THAN, SMALLER THAN OR EQUAL TO, LARGER THAN OR EQUAL TO, OR EQUAL TO GIVEN VALUE

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FIG. 3

ITEM NUMBER	MEANING	PARAMETER
301 1	PLACE ALL FILES IN SPECIFIC PHYSICAL DEVICE	NAME OF PLACED STORAGE PHYSICAL DEVICE
302 2	SPECIFY HOW MANY BYTES FROM HEAD OF FILE SHOULD BE PLACED IN SPECIFIC PHYSICAL DEVICE	NAME OF PLACED STORAGE PHYSICAL DEVICE, NUMBER OF THRESHOLD BYTES
303 3	SPECIFY WHAT PERCENT FROM HEAD OF FILE SHOULD BE PLACED IN SPECIFIC PHYSICAL DEVICE	NAME OF PLACED STORAGE PHYSICAL DEVICE, THRESHOLD PERCENT VALUE
304 4	SPECIFY HOW MANY BYTES FROM END OF FILE SHOULD BE PLACED IN SPECIFIC PHYSICAL DEVICE	NAME OF PLACED STORAGE PHYSICAL DEVICE, NUMBER OF THRESHOLD BYTES
305 5	SPECIFY WHAT PERCENT FROM END OF FILE SHOULD BE PLACED IN SPECIFIC PHYSICAL DEVICE	NAME OF PLACED STORAGE PHYSICAL DEVICE, THRESHOLD PERCENT VALUE
306 6	SPECIFY WHETHER NEWLY-ADDED PORTION SHOULD BE PLACED IN SPECIFIC PHYSICAL DEVICE	NAME OF PLACED STORAGE PHYSICAL DEVICE

FIG. 4

401 SCENE DATA 1   402 SCENE DATA 2

403 AUDIO DATA 1 | 404 COMPRESSED VIDEO DATA 1 | 405 ANIMATED DATA 1 | 406 AUDIO DATA 2 | 407 COMPRESSED VIDEO DATA 2

408 SYNCHRONOUS DATA | 409 AUDIO COMPRESSED DATA 1

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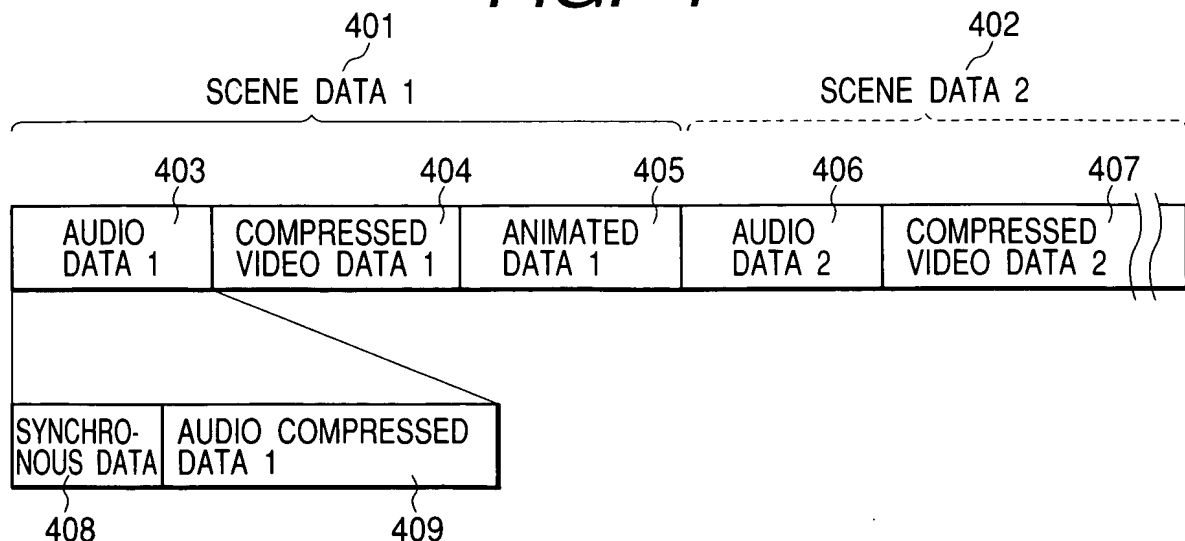
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FIG. 5

```
<?xml version="1.0"encoding="Shift_JIS"?> ~501
<!DOCTYPE STORAGE STORED DATA [

  <!ELEMENT multimedia-data (file-head, obj-data*)> ~502          503

  <!ELEMENT file-head (filename, file-ext, size, title?, creator?, bitrate?, time?)>
  <!ELEMENT filename (#PCDATA)> ~504
  <!ELEMENT file-ext (#PCDATA)> ~505
  <!ELEMENT size (#PCDATA)> ~506
  <!ELEMENT title (#PCDATA)> ~507
  <!ELEMENT creator (#PCDATA)> ~508
  <!ELEMENT bitrate (#PCDATA)> ~509
  <!ELEMENT time (#PCDATA)> ~510

                                      511
                                                              512
  <!ELEMENT obj-data (obj-head, obj-body)*>
  <!ELEMENT obj-head (len, seq, time, dur?, obj-id, command?, bitrate?, encodetype?,
                      mediatype?, content-attribute?)>
  <!ELEMENT len (#PCDATA)> ~513
  <!ELEMENT seq (#PCDATA)> ~514
  <!ELEMENT time (#PCDATA)> ~515
  <!ELEMENT duration (#PCDATA)> ~516
  <!ELEMENT obj-id (#PCDATA)> ~517
  <!ELEMENT command (#PCDATA)> ~518
  <!ELEMENT bitrate (#PCDATA)> ~519
  <!ELEMENT encodetype (#PCDATA)> ~520
  <!ELEMENT mediatype (#PCDATA)> ~521
  <!ELEMENT content-attribute (#PCDATA)> ~522
  <!ELEMENT obj-body EMPTY>
  <!ATTLIST obj-body % media-object-attrs;> ~523
  <!ENTITY % media-object-attrs"
            begin-place CDATA #IMPLIED ~524
            end-place CDATA #IMPLIED ~525
    ">

]>
```

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FIG. 6

```
<?xml version="1.0"encoding="Shift_JIS"?>
<!DOCTYPE STORAGE STORED DATA SYSTEM "storagedata.dtd">  ~601
<STORAGE STORED DATA> ~602
<multimedia-data>
<file-head>
    <filename> movie1.mpg</filename> ~603
    <file-ext> mpg</file-ext>  ~604
    <size> 2,000,000,000</size>  ~605
    <title> actionmovie</title> ~ 606
    <creator> John</creator>  ~607
    <bitrate> 2000000</bitrate> ~608
    <time> 7200</time> ~609
</file-head>
<obj-data> ~610
    <obj-head> ~611
    <len> 900</len> ~612
    <seq> 1</seq>  ~613
    <time> 0</time> ~614
    <dur> 32</dur>  ~615
    <obj-id> 0</obj-id> ~616
    <command> create</create> ~617
    <bitrate> 1800000</bitrate> ~618
    <encodetype> ISO/IEC 14496-2</encodetype> ~619
    <mediatype> video</mediatype> ~620
    <content-attribute> promotion commercial</content-attribute> ~621
    </obj-head>
    <obj-body begin-place="1000"end-place="1064"/> ~622
    </obj-data>
<obj-data> ~623
    <obj-head> ~624
    <len> 64</len> ~625
    <seq> 1</seq> ~626
    <time> 0</time> ~627
    <dur> 32</dur> ~628
    <obj-id> 1</obj-id> ~629
    <command> create</create> ~630
    <bitrate> 128000</bitrate> ~631
    <encodetype> ISO/IEC 14496-3</encodetype> ~632
    <mediatype> audio</mediatype> ~633
    </obj-head>
    <obj-body begin-place="1016"end-place="1080"/>~634
    </obj-data>
        ⋮
</multimedia-data>
</STORAGE STORED DATA>
```

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FIG. 7

```xml
<?xml version="1.0"encoding="Shift_JIS"?>
<xsl:stylesheet xmlns:xsl="http://www.w3.org/TR/WD-xsl"> ～701

<xsl:template match="STORAGE STORED DATA">～702
  <xsl:for-each select"/">
  <xsl:if test=".[/obj-data/obj-head/bitrate $ge$ 512000]">～703
    <storageselect>
        <phynumber> 1 </phynumber> ～704
        <filename>
          <xsl:value-of select"/file-head/filename/> ～705
        </filename>
        <begin-place>
          <xsl:value-of select"/obj-data/obj-body[@begin-place]/> ～706
        </begin-place>
        <end-place>
          <xsl:value-of select"/obj-data/obj-body[@end-place]/>～707
        </end-place>
    <storageselect>
  </xsl:if>
  </xsl:for-each>
</xsl:template>
```

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FIG. 8

```
        114                              116
   ┌──────────────┐              ┌──────────────┐
   │HOST PROCESSOR│              │ MANAGEMENT   │
   │              │              │ DEVICE       │
   └──────────────┘              └──────────────┘
```

101

801 — PHYSICAL DEVICE ACCESS PROCESSOR

802 — POLICY SETTER

803 — LOGICAL ADDRESS-PHYSICAL ADDRESS CONVERSION TABLE

102~106
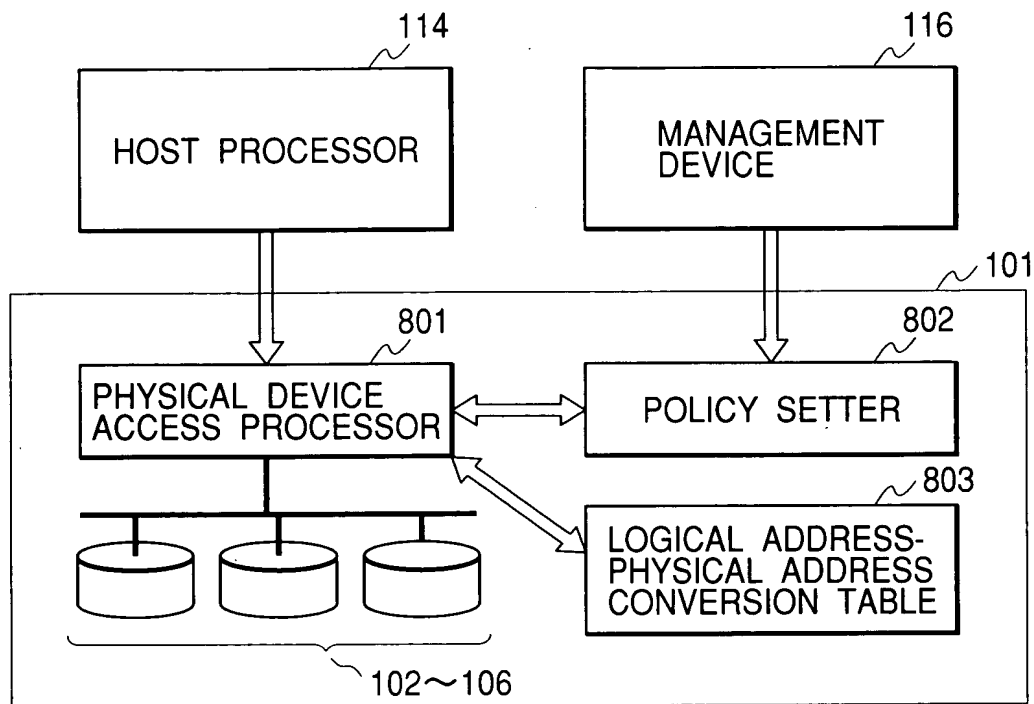
FIG. 9

LOGICAL ADDRESS	PHYSICAL ADDRESS	
	STORAGE PHYSICAL DEVICE NUMBER	PHYSICAL ADDRESS
⋮	⋮	⋮

901   903   902   904

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FIG. 10

START PROCESS

1001

STORE REQUEST TO DATA FILE ? ──────────────────┐

1003   1002

IS XML DEFINITION HAVING
DEFINED DATA STRUCTURE ──────────┐   TO ANOTHER
PRESENT ?   │   PROCESS

1004   │

IS XML DESCRIPTIVE OF   │
STRUCTURE OF DATA FILE ──────────┤
PRESENT ?   │

1005   │

IS XML DEFINITION HAVING   │
DESCRIBED PROCESS FOR ───────────┤
DATA PRESENT ?   │

1006

IS FILE FINAL ? ─────────┐   TO NORMAL
                         │   PLACEMENT
1007   │   PROCESS

1008   │

EVALUATE XML SET EVERY   END
OBJECTS FOR EVERY SCENES
IN XML DESCRIPTIVE OF
STRUCTURE OF DATA FILE BY
XML DESCRIPTIVE OF PROCESS
FOR DATA

1009

IS PLACEMENT TO SPECIFIC
1014   STORAGE DEVICE NECESSARY ?

TO NORMAL   1010
PLACEMENT
PROCESS   ASSIGN FREE AREA FROM
           SPECIFIC STORAGE DEVICE

1011

SET INFORMATION IN AREA
ASSIGNED TO LOGICAL ADDRESS-
PHYSICAL ADDRESS CONVERSION
TABLE

1012

EXECUTE PROCESS FOR
WRITING DATA IN ASSIGNED
FREE AREA

1013

TO NEXT OBJECT DATA